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A REVISION OF THE GENUS ASCYRUM (HYPERICACEAE)¹

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THE genus *Ascyrum*, a member of the *Hypericaceae* (*Guttiferae* of some authors), has not been studied monographically since Coulter's treatment for the Synoptical Flora of North America (1897). Several regional interpretations of the genus have been published during the past fifty years but none of them is adequate for the entire range of the genus.

The present study is based upon approximately 3800 specimens which were kindly lent by the curators of the following herbaria. The herbarium abbreviations used are those recommended by Lanjouw and Stafleu (1956).

CINC, University of Cincinnati; CLEMS, Clemson Agricultural College; DUKE, Duke University; F, Chicago Natural History Museum; FLAS, Florida Agricultural Experiment Station; GA, University of Georgia; GEO, Emory University; GH, Gray Herbarium; IND, Indiana University; K, Royal Botanic Garden, Kew; LSU, Louisiana State University; MICH, University of Michigan; MISSA, Mississippi State College; MO, Missouri Botanical Garden; NCSC, North Carolina State College; NCU, University of North Carolina; NO, Tulane University; NY, New York Botanical Garden; OKL, University of Oklahoma; OS, Ohio State University; PENN, University of Pennsylvania; PH, Academy of Natural Sciences; SMU, Southern Methodist University; TENN, University of Tennessee; TEX, University of Texas; US, United States National Herbarium; VDB, Vanderbilt University; WVA, West Virginia University; also the University of Louisville, Ky., and University of South Carolina.

Only a limited number of representative specimens are cited for most of the taxa involved. A complete list of all specimens

¹ Condensed and revised from a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at the University of Georgia, June 1956.

examined in this study may be found in the original thesis at the Library of the University of Georgia.

ACKNOWLEDGEMENTS

I wish to express my appreciation to Dr. Wilbur H. Duncan (University of Georgia) for his advice and assistance while directing this study. The critical examination of the manuscript by Dr. R. B. Channell (Gray Herbarium) has been invaluable. The suggestions of Dr. Jonathan J. Westfall and Mr. S. Alton Ewing (University of Georgia), Dr. Robert L. Wilbur (North Carolina State College), and Mr. Robert L. Dressler (Gray Herbarium) are gratefully appreciated.

HISTORICAL ACCOUNT

Plants of the genus *Ascyrum* were perhaps first described by Plumier (1703) in his genus *Hypericoides*. In the "Genera Plantarum" (1737) Linnaeus established the genus *Ascyrum* for these plants. Although Linnaeus (1753) described three species it is most probable that his concepts of the genus were based entirely upon citations from other authors rather than on actual herbarium material. Torrey and Gray (1840) were the first to suggest that Linnaeus had no specimens of the genus prior to 1758. Both Jackson (1912) and Savage (1945) concur in the same belief from their studies of the Linnaean herbarium. As a result, considerable nomenclatural confusion is evident in the treatments of Linnaeus which persisted until Fernald's discussion of the *A. hypericoides* complex in 1936.

The first comprehensive monographic treatment of *Ascyrum* appeared in Choisy's study of the *Hypericaceae* (1821). Six species and one variety were recognized. Sixteen years later, a more extensive but less discerning study of the genus was published by Spach (1836). This treatment, illustrating an extreme of taxonomic interpretation, was based upon insufficient material and lacked field study. It is significant that the American taxonomists Coulter (1886, 1897), Chapman (1897), and Mohr (1901), who possessed field experience with the genus, did not follow Spach's interpretation. The next monographic treatment of *Ascyrum* was by Coulter in 1886. His study followed closely the concepts of Torrey and Gray (1840).

GEOGRAPHICAL DISTRIBUTION

The genus *Ascyrum*, as circumscribed in this study, is restricted to North America. Although the Himalayan *A. filicaule* Dyer, the type (K) of which I have examined, possesses certain characters traditionally assigned to this genus, I cannot include it within *Ascyrum* sensu stricto. Like American *Ascyrum*s, this species has a tetramerous calyx and corolla, the sepals in two unequal pairs, but its herbaceous habit precludes its being considered as congeneric with the American taxa. No change in its status seems desirable at this time, however, inasmuch as a thorough study of the related genus *Hypericum* should be made before any such alteration can be justified.

The six taxa of *Ascyrum* are found primarily in southeastern United States and three species occur only in the extreme southeastern part of the area. Two other taxa range south of the glacial boundary from New Jersey to eastern Texas. Another species may be found over most of this area, but also occurs in the West Indies and along the Eastern Escarpment in Central America as far south as Honduras.

DISTINCTIVENESS OF THE GENUS

Whether or not *Ascyrum* should be recognized as generically distinct from *Hypericum* is in question. The basis for the recognition of *Ascyrum* is the cruciate tetramerous calyx and corolla, with the sepals of two unequal pairs. *Hypericum* has traditionally been separated on the basis of pentamerous petals and sepals, the outer more or less equal. Yet, various authors have suggested that the two taxa may not actually be distinct. Coulter (1897) stated: "The propriety of a generic separation from *Hypericum* is very doubtful." Essentially the same view was held by Keller (1925) who pointed out that "reversions" to the pentamerous condition occasionally occurs in individual flowers of certain species of *Ascyrum*. Field observations made during the course of the present study indicate that pentamerous corollas are to be found occasionally in all species of *Ascyrum*, one of the petals usually being considerably reduced in size. The comparative study of stem anatomy by Vestal (1937) indicates that *Ascyrum* species differ very little from the woody members of the genus *Hypericum*.

Crookea microsepala (T. & G.) Small, geographically restricted to the vicinity of Tallahassee, Florida, where both *Ascyrum* and *Hypericum* species are abundant, serves as a "connecting link" and further obscures the distinction between the two genera. This species possesses the typically tetramerous corolla and calyx of *Ascyrum*, but has the sepals in two nearly equal pairs. Vegetatively, *Crookea* exhibits a general hypericum-like aspect and frequently the pentamerous floral condition of *Hypericum*. Tetramerous and pentamerous flowers may occur in this species on the same individual plant.

The occurrence of inequilateral sepals in certain species of *Hypericum* further suggests that that genus may not be generically distinct from *Ascyrum*. *Hypericum Bissellii* Robinson from Southington, Connecticut, and *H. macrosepalum* Rehder from western Szechuan, China, both have two sepals which are considerably larger than the other three. These species, however, both known from limited material only, may represent teratological forms.

Despite all of the evidence presented above, it seems best to maintain *Ascyrum* as a genus until such time as the closely related *Crookea* and *Hypericum* can be studied and the generic limits within the family clarified.

These three genera may be distinguished by the following key:

- Sepals typically four, in more or less unequal pairs, the outer pair usually much larger than the inner; petals mostly four.
 Outer pair of sepals very much larger than the inner *Ascyrum*.
 Outer and inner pairs of sepals nearly equal in size *Crookea*.
 Sepals five, typically approximately equal; petals mostly five *Hypericum*.

SYSTEMATIC TREATMENT

Ascyrum L. Gen. Pl. 231. 1737; Sp. Pl. 1: 787. 1753.

Hypericoides Adanson, Fam. Pl. 2: 443. 1763.

Low, evergreen shrubs. Stems simple, sparsely branched or dichotomously branched above, younger stems two-edged or winged. Root system usually of one main taproot with several fibrous laterals. Leaves simple, opposite, exstipulate, entire, firm or coriaceous, merely sessile to closely clasping, superficially punctate with numerous translucent internal glands, venation pinnate, the lateral veins typically obscure. Flowers perfect, actinomorphic, pedicellate, each subtended by 2 bract-

lets, solitary or in small cymules, terminal or from the upper axils. Sepals 4, herbaceous, in 2 pairs, the outer appressed to each other in bud, usually persistent beyond shedding of the seeds, the inner much smaller and narrower, or obsolete. Petals 4, rarely 5, yellow, hypogynous on the short receptacle, oblique, fugacious, cruciate, widely spreading, convolute in the bud. Stamens numerous, distinct, or weakly connate by their filaments at the base, scarcely clustered, marcescent. Anthers round-ovate, versatile, dehiscing laterally by longitudinal slits. Ovary unilocular, of 2–3, rarely 4 carpels, with 2–4 parietal placentae bearing numerous ovules. Styles 2–4, distinct or somewhat united below. Capsule ovate, dehiscence septicidal, enclosed by the persistent sepals. Seeds numerous, black, reticulate.—Type species: *Ascyrum hypericoides* L.

KEY TO THE SPECIES OF ASCYRUM

- A. Styles 2; inner sepals minute or obsolete.
 - B. Pedicels reflexed at maturity; subtending bractlets at the base of the pedicel, remote from the sepals. 1. *A. pumilum*.
 - B. Pedicels erect, even at maturity; subtending bractlets near the apex of the pedicel, approximate the sepals. 2. *A. hypericoides*.
- A. Styles 3–4; inner sepals only slightly smaller than the outer which are 9–20 mm. long, 6–18 mm. wide.
 - C. Sepals and leaves distinctly unlike in shape; leaves merely sessile.
 - D. Outer sepals prominently veined, the 6–7 lateral veins conspicuous, broadly ovate or suborbicular, obtuse or acute; plants without adventitious shoots; the stem simple or sparsely branched. 3. *A. stans*.
 - D. Outer sepals obscurely veined, the lateral veins inconspicuous, cordate, acuminate; plants with adventitious shoots from horizontal roots; the stems usually dichotomously branched. 4. *A. edisonianum*.
 - C. Sepals and leaves similar in shape; leaves strongly clasping. 5. *A. tetrapetalum*.

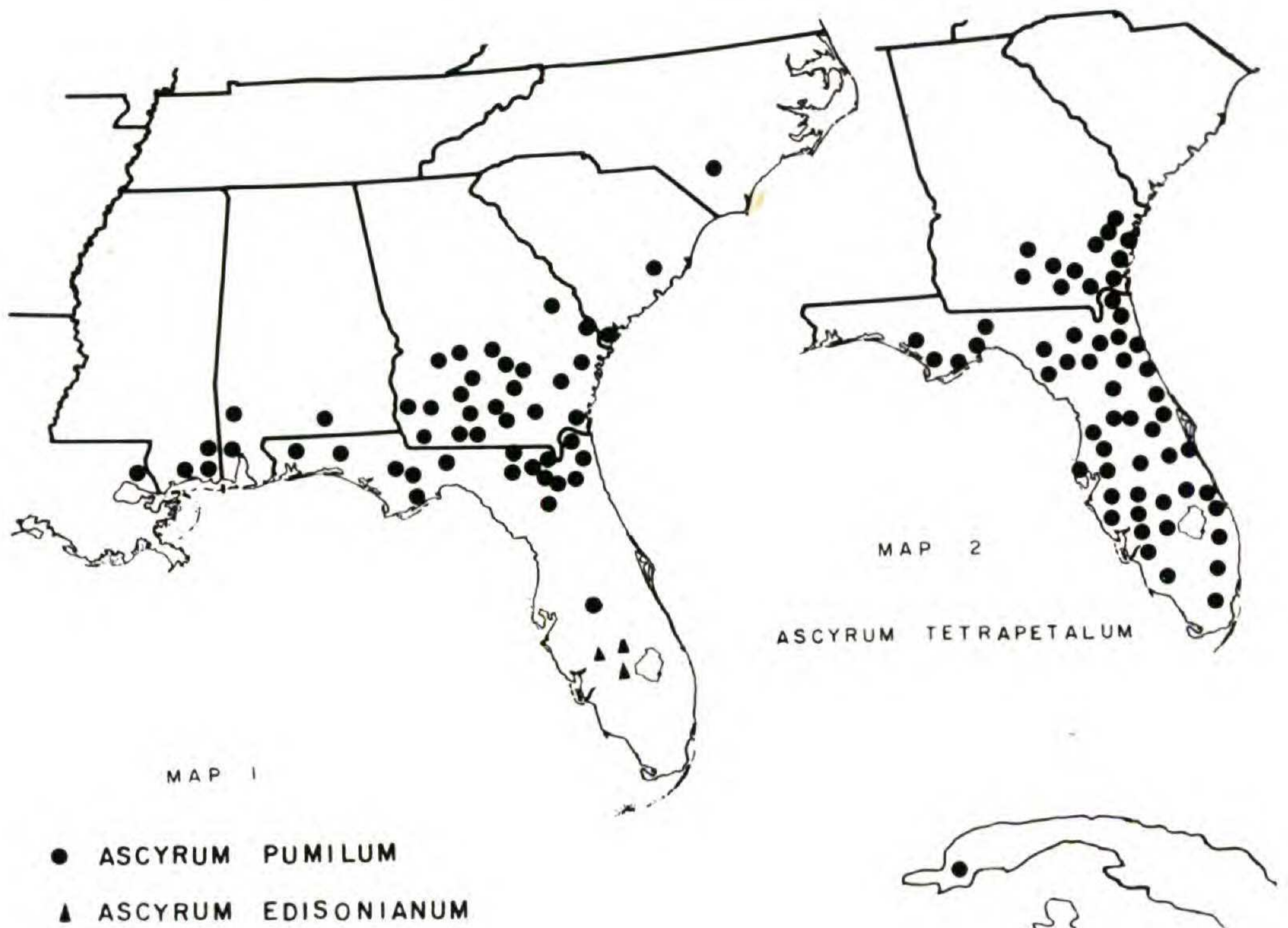
1. ***Ascyrum pumilum*** Michx. Fl. Bor.-Am. 2: 77. 1803.

A. pauciflorum Nutt. Gen. 2: 15. 1818.

Diminutive shrub, 6–15(–20) cm. high, with spreading branches. Leaves linear-oblong to oval, sometimes narrowly obovate, (3–)4–8(–10) mm. long, 1–3 mm. wide, ascending to somewhat spreading, midvein slightly elevated beneath, venation otherwise obscure. Pedicels (5–)7–10(–12) mm. long, reflexed at maturity, the bractlets basal. Outer sepals oval to ovate, (4–)5–7(–8) mm. long, (4–)4.5–6(–8) mm. wide, obtuse to acute, very similar to the leaves in color and texture, Inner sepals minute or obsolete. Petals often unequal, obovate, (4–)5–6(–8) mm. long, 1.5–4(–5) mm. wide. Styles 2, more or less united. Flowering during spring and early summer. Type locality: “Hab. in Georgia.” Type: presumably in the Michaux Herbarium, Muséum d’Histoire Naturelle de Paris, not seen.

DISTRIBUTION: Dry, sandy, open pinelands of the Coastal Plain in Bladen County, North Carolina, Berkeley County, South Carolina, southern Georgia, northern and western Florida, lower Alabama, southeastern Mississippi, and St. Tammany Parish, Louisiana. MAP 1.

This is a relatively poorly collected species, probably due to the small size of the plants, their low, inconspicuous habit, and the fugacious nature of the petals which usually fall by mid-day. The species is known from only three stations in the



Carolinas. Additional collections are needed, therefore, to determine the northern limit of its range. The elongated pedicels which are more or less reflexed at maturity, the sepals which are wider than the leaves, and the rather small size of the plants serve to distinguish this species. Morphologically, it is quite uniform throughout its range, probably the least variable species of the genus.

REPRESENTATIVE SPECIMENS.—**Alabama.** Covington Co.: *Hardin & Duncan 14974* (GA). **Florida.** Baker Co.: *West & Arnold 25 April 1940* (FLAS). Columbia Co.: *Nash 2211* (GH, MICH, MO, NY, US). Duval Co.: *Curtiss 246* (F, FLAS, GH, MISSA, MO, NY, PH, US). **Georgia.** Camden Co.: *Moldenke 1180* (DUKE, MO, NY, PENN). Dodge Co.: *Duncan 5035* (GA). Effingham Co.: *Leeds & Harper 2671* (PH). Thomas Co.;

Adams 30 (GA). **Louisiana.** St. Tammany Parish: *Bougere 2006* (LSU). **Mississippi.** Harrison Co.: *Tracy 4489* (F, MICH, MO, NY, OS, US). Jackson Co.: *Donald May 1930* (MISSA). **North Carolina.** Bladen Co.: *Wood 8499* (GH).

2. ***Ascyrum hypericoides*** L. Sp. Pl. 788. 1753, as to Plumier's plant, *Hypericoides frutescens erecta, floreo luteo*.

Shrubs, erect or ascending, (3-)5-12(-15) dm. tall, or decumbent and somewhat diffuse, (8-)10-20(-30) cm. tall, simple or sparsely branched below, or with numerous slender stems arising from the base, with or without long axillary branchlets, stems in age reddish-brown, with bark exfoliating in shreds. Leaves sessile, linear to oblanceolate, (5-)7-25 (-34) mm. long, (1-)1.5-6(-8.5) mm. wide, narrowed to the base, the apex obtuse or rounded, the margins slightly revolute, midvein slightly elevated at base, venation otherwise obscure. Pedicels 3-6 mm. long, with small bractlets borne near the apex. Outer sepals highly variable in shape and size, (5-)6-11(-12.5) mm. long, (2-)3-12(-13) mm. wide, broadly ovate, cordate, often subcordate at base, ovate-elliptic to elliptic, obtuse to acute, obscurely 3-5-veined. Inner sepals minute or obsolete. Petals narrowly oblong-elliptic, (7-)8-11(-12) mm. long, 2-4(-5) mm. wide. Styles 2. Capsule included or exerted at maturity. Flowering during summer and early fall, or throughout the year in the more southern parts of the range.

This species is quite variable as to the size and shape of the leaves and sepals, characters previously considered important in the segregation of varieties. This variability, in addition to the fact that Linnaeus' concepts concerning *Ascyrum* (1753) were derived apparently from the writings of other authors, has resulted in considerable nomenclatural and taxonomic confusion. As already indicated, it is possible that Linnaeus did not have specimens of the genus at hand in 1753. At that time *Ascyrum* consisted of three species. Of these, *A. Crux-Andreae* has been shown to be *Hypericum mutilum* by Torrey and Gray (1840). From the second edition of *Species Plantarum* (1763) it may be noted that Linnaeus' concept of *A. Crux-Andreae* changed. Torrey and Gray, as well as later authors, have used the name in this altered Linnaean sense, but, as Fernald (1936) pointed out, ". . . such a procedure is no longer justified, since *A. Crux-Andreae* of ed. 1 [Sp. Pl.] was merely *Hypericum mutilum*." Another species, *A. hypericoides*, in the 1753 treatment of Linnaeus was a mixture, as Torrey and Gray (1840) and Fernald (1936) have shown. Of the four references to previous authors which Linnaeus gave for this species, only the Plumier citation can be considered as applicable.

This extremely polymorphic species has been variously interpreted by post-Linnaean students of the genus. Spach (1833) recognized five separate species in this complex, but, as pointed out above, his treatment reflects a lack of field study and was based upon insufficient herbarium material. It is to be noted that four of Spach's segregates of *A. hypericoides* were promptly reduced to synonymy by Torrey and Gray (1840). In 1886 Coulter interpreted this complex as comprising two species, but, eleven years later (1897), he united these taxa, commenting that ". . . the attempt to maintain two distinct species seems untenable." A more satisfactory interpretation of *A. hypericoides* was presented by Fernald (1936), who recognized three varieties. The complex was considered to be composed of a single species by Gleason (1952) whose treatment, judging from the nature of the format, obviously de-emphasized Fernald's three varieties.

The results of the present study of the genus indicate that *A. hypericoides* is best considered as a single wide-ranging, extremely polymorphic species of two well-defined varieties. One of these, var. *multicaule*, is a many-stemmed plant of decumbent form, with a generally more northern distribution. The highly variable assemblage of erect forms, of more southern distribution, comprise var. *hypericoides*. This interpretation is based upon the analysis of several hundred herbarium specimens and extensive field observations.

The conspicuous differences in growth habit serve to distinguish the two varieties of this species. Individual plants of *A. hypericoides* var. *multicaule* have several stems which arise from the primary rootstock near ground level and lie more or less prostrate upon the ground. Each of these decumbent stems bears numerous erect branches, so as to form a low, diffuse mat which may reach 3 to 4 dm. in diameter. By contrast, var. *hypericoides* has an erect habit of growth and may attain a height of 1 meter. Typically with only one main stem, these plants usually branch repeatedly well above ground level. If the primary stem has been injured mechanically or by fire, however, a different habit of growth may be produced. Such plants, generally regarded as "stump sprouts", are characterized by numerous erect branches which arise from the base of the

plant near ground level, but they do not exhibit the decumbent habit of var. *multicaule*.

It has been suggested that the differences between the varieties of *A. hypericoides* recognized by Fernald may be due to environmental conditions (Gleason, 1952). Two of these varieties are probably influenced considerably by habitat factors, but it is very doubtful that the distinctive growth form of var. *multicaule* is the result of such environmental modification. Numerous instances are known in which both the decumbent var. *multicaule* and the erect var. *hypericoides* grow immediately adjacent or only a few feet from one another. It seems obvious that such gross differences in growth habit cannot be attributed solely to extrinsic factors.

While there is some presumptive evidence which suggests that the *A. hypericoides* complex might be composed of two distinct species, no constant floral differences are known which substantiate such a separation. Both Coulter (1897) and Fernald (1936) were unsuccessful in their search for floral characters upon which to elevate these varieties to specific status. Similar negative results have been obtained in the present study. Even though both varieties have been observed in close proximity, no intergradation in growth habit has been detected.

KEY TO THE VARIETIES OF *A. HYPERICOIDES*

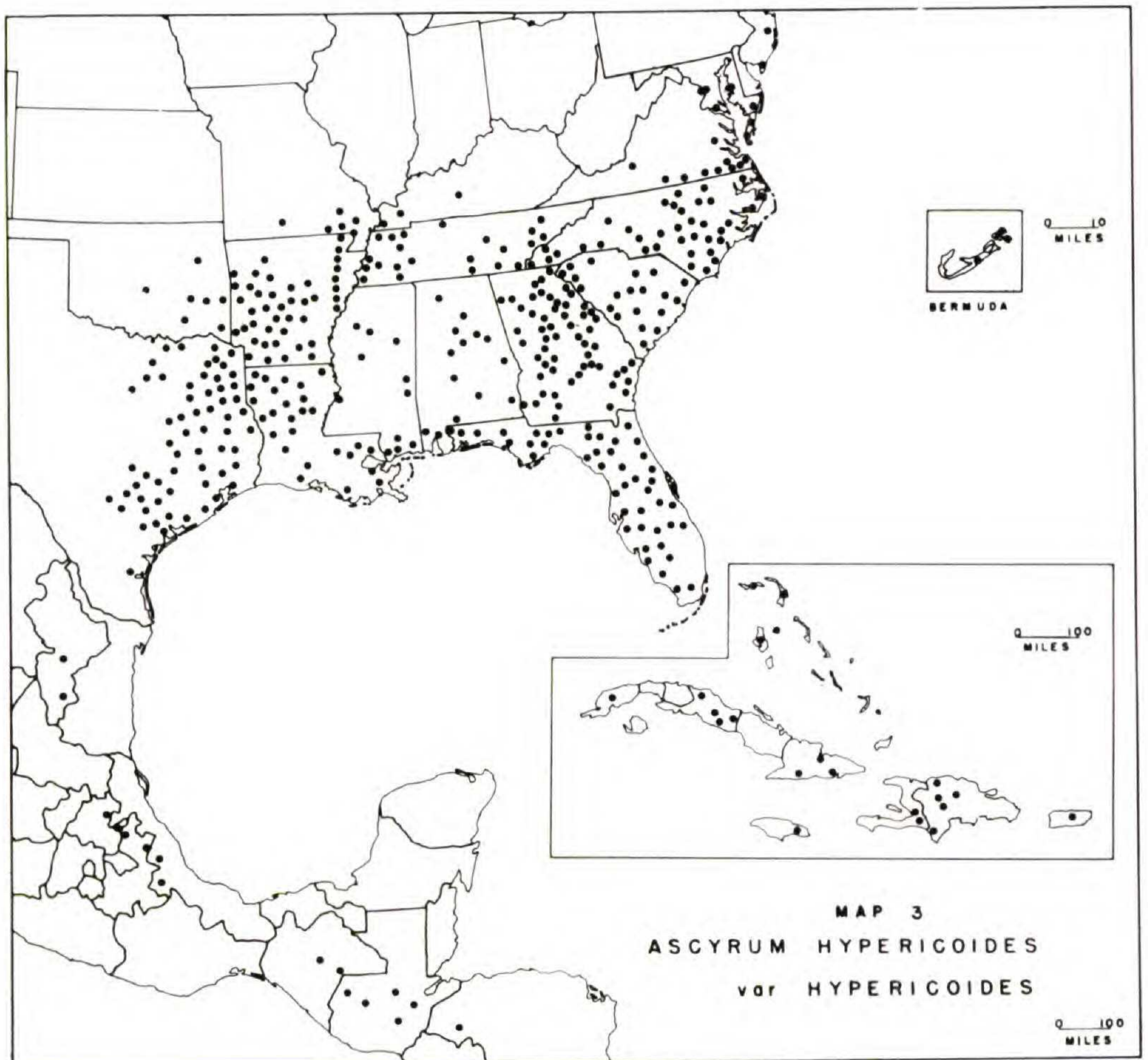
- A. Plants erect in habit, usually with a single main stem 3–8 dm. tall, freely branched well above the ground level; leaves extremely variable in size and shape, usually linear-elliptic to linear-oblong, broadest near the middle. 2a. *A. hypericoides* var. *hypericoides*.
- A. Plants decumbent in habit, with several prostrate stems arising from the primary rootstock near ground level, each with numerous erect branches 1–2(–3) dm. tall, forming low, compact mats 3–4 dm. in diameter; leaves generally uniform in size and shape, usually oblanceolate, broadest above the middle. 2b. *A. hypericoides* var. *multicaule*.

2a. *Ascyrum hypericoides* L. var. *hypericoides*.

Ascyrum Hypericoides L. Sp. Pl. 2: 788. 1753, as to Plumier's plant; ed. 2, 2: 1108. 1763, excl. Plukenet reference (fide T. & G. Fl. N. Am. 1: 671. 1840). *A. Crux-Andreae* β *angustifolium* Nutt. Gen. 2: 16. 1818. *A. linifolium* Spach, Hist. Nat. Vég. 5: 459. 1836. *A. oblongifolium* Spach, Hist. Nat. Vég. 5: 461. 1836. *A. montanum* Raf. Sylva

Tellur. 16. 1838. *A. Plumieri* Bertol. in Mem. Acc. Sci. Bolog. 4: 77. 1853. *A. macrosepalum* S. Brown in Britton, Jour. N. Y. Bot. Gard. 13: 192. 1912. *A. Hypericoides* L. var. *typicum* Fernald, RHODORA 38: 432. 1936. *A. Hypericoides* L. var. *oblongifolium* (Spach) Fernald, RHODORA 38: 433. 1936. Type locality: "Hab. in Jamaica." Neotype: specimen number 944.2 in the Linnaean Herbarium (GH, photograph examined).

Distribution: Dry, open, sandy woods to moist, shady, rich woods and thickets from southern Virginia, westward into southern Missouri



and southeastern Oklahoma, southward into Texas and Florida; also in Bermuda, Bahama Islands, Cuba, Haiti, Dominican Republic, Puerto Rico, Jamaica, the Eastern Escarpment of Mexico, and the highlands of Guatemala and Honduras. MAP 3.

The designation of a neotype is necessitated by the following facts. First, Linnaeus most probably based his concept of *A. hypericoides* (1753) solely upon citations from other authors, having no actual specimens at hand. As shown previously,

the Linnaean reference to Plumier's plant is the only one which is applicable, the remaining references applying to other taxa. The description and figure of this plant (Plumier, 1703), however, are so vague and indefinite that they could easily represent other species of the genus which precludes the use of Plumier's plant as type. Secondly, it is very likely that the first specimen of *A. hypericoides* which Linnaeus actually examined was one of Patrick Browne's plants from Jamaica, which, according to Savage (1945), was probably not added to the Linnaean Herbarium until 1758. The alteration by Linnaeus of his concept of *A. hypericoides* in 1763 by the addition of a reference to Browne's Jamaican plant would appear to substantiate this interpretation. According to Savage (1945), the words "Ascyrum" and "Br" (Patrick Browne) appear on specimen number 944.2 in Linnaeus' handwriting. Savage pointed out further that most of Browne's specimens were bought by Linnaeus in 1758, which, if true, indicates that this specimen was available to Linnaeus in the preparation of the second edition of *Species Plantarum* (1763). It is concluded, therefore, that the best interest of nomenclatural stabilization is served by designating specimen number 944.2 of the Linnaean Herbarium as a neotype.

Ascyrum hypericoides var. *hypericoides* is quite polymorphic, being composed of a highly variable assemblage of erect plants. The complex was interpreted as two "geographic varieties" by Fernald (1936, 1950), but the characters employed as diagnostic are inadequate when material from throughout the range is considered. The shape and size of the leaves and sepals are the major characters used by Fernald. From the present study it is evident that a continuous type of variation exists, in which the plants exhibit subtle changes in quantitative characters. No correlation was found to exist between these characters and geographical distribution. The nature of the variation encountered in these characters is illustrated in Figures 1-25. These figures are arranged to emphasize the continuous change in leaf shape from one extreme ("linear-oblongate or linear-oblong") to the other ("oblong-oblongate"). Sepal shape varies in the same manner. A similar continuous variation is to be found in the size of both sepals and leaves (cf. Table 1).

Table 1. Quantitative analysis of the leaf and sepal variation in *Ascyrum hypericoides* var. *hypericoides* taken randomly from specimens throughout the range. Twelve measurements were made of each specimen of the sample: 3 each for length and width of leaves and sepals.

<i>Leaves</i>				<i>Sepals</i>			
<i>Length</i>		<i>Width</i>		<i>Length</i>		<i>Width</i>	
<i>Size class mm.</i>	<i>No. measurements</i>	<i>Size class mm.</i>	<i>No. measurements</i>	<i>Size class mm.</i>	<i>No. measurements</i>	<i>Size class mm.</i>	<i>No. measurements</i>
5	1	1.0	23	5.0	10	2.0	2
6	19	1.5	59	5.5	8	2.5	3
7	37	2.0	144	6.0	41	3.0	23
8	58	2.5	111	6.5	32	3.5	24
9	65	3.0	134	7.0	103	4.0	67
10	47	3.5	86	7.5	83	4.5	91
11	63	4.0	176	8.0	140	5.0	168
12	78	4.5	84	8.5	100	5.5	131
13	68	5.0	111	9.0	212	6.0	236
14	60	5.5	35	9.5	62	6.5	131
15	61	6.0	60	10.0	58	7.0	134
16	66	6.5	11	10.5	32	7.5	40
17	49	7.0	13	11.0	66	8.0	25
18	71	7.5	10	11.5	15	8.5	10
19	40	8.0	3	12.0	23	9.0	5
20	49	8.5	1	12.5	4	9.5	1
21	55			13.0	1		
22	42						
23	35						
24	24						
25	22						
26	18						
27	7						
28	18						
29	5						
30	2						
31	1						
32	2						
33	1						
34	1						

As suggested previously, *Ascyrum hypericoides* var. *hypericoides* is apparently influenced considerably by its environment. Such a belief is supported by numerous field observations made during the course of the present study as well as by data from herbarium specimens. Plants of var. *hypericoides*, for example, have been observed growing in fertile soils along shaded stream

banks and in thickets, while other plants of this variety were found on the dry, barren soils of sunny hillsides nearby. As would be expected, the plants in the shaded fertile habitats (cf. Fig. 19b, 20b, 21b) exhibit almost invariably much larger leaves and sepals than those of the adjacent hillsides (cf. Fig. 7a, 8a, 11a).

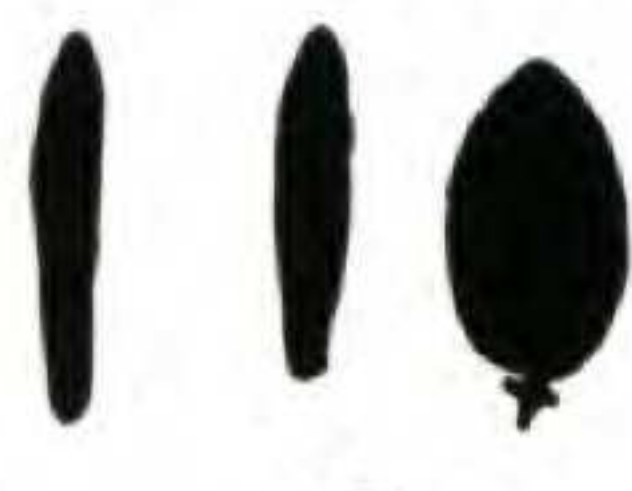
Several morphological tendencies exist within the wide-ranging *Ascyrum hypericoides* var. *hypericoides* which show some degree of geographical segregation. One of the most distinctive, that of the Bahama Islands and certain areas of Dade County, Florida, exhibits very slender twigs with a dense covering of narrowly linear leaves (Fig. 1). Although these plants do present quite a different general aspect, the segment of variation they represent is not considered worthy of taxonomic recognition. It is believed that the distinctive habit of growth of these plants is due primarily to the edaphic conditions (i.e., calcareous soils) under which they grow. Moreover, this variety exhibits a similar habit of growth in the xerophytic sandhill areas of the Carolinas and Georgia. Some of the herbarium specimens of var. *hypericoides* from Guatemala and Honduras have sepals which are rather elongate-elliptical and more or less long-acuminate (cf. Figures 9 and 10). These specimens are interpreted as representing still another variation tendency in this polymorphic variety.

The extension of the range of *Ascyrum hypericoides* var. *hypericoides* southward into Honduras is reported for the first time. This variety was collected in the vicinity of La Esperanza and Intibuca, Honduras, by Dr. Paul C. Standley in 1950.

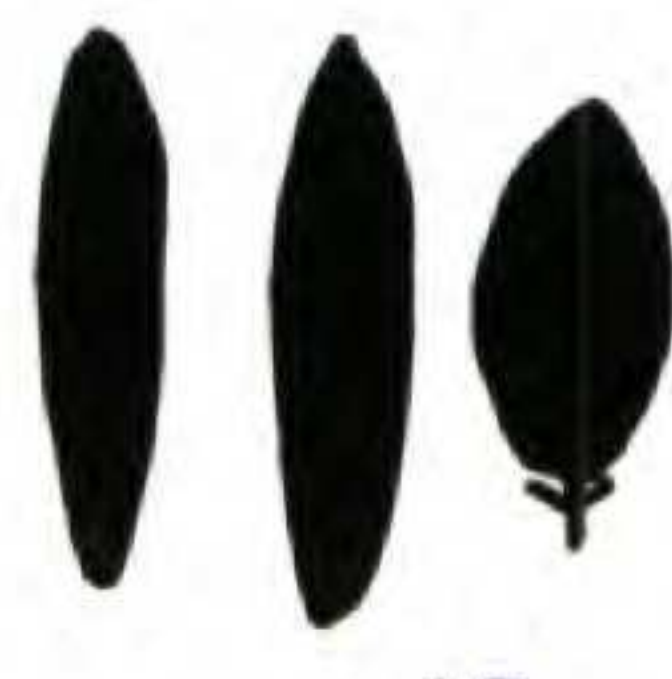
REPRESENTATIVE SPECIMENS.—**Alabama.** Baldwin Co.: *Corbin 165* (SMU). **Arkansas.** Logan Co.: *Demaree 17697* (F, GH, MO, OKL). **Florida.** Dade Co.: *Hunnewell 5780*; *Small & Carter 2614* (FLAS, GH, NY, SMU), similar to the Bahaman material. **Georgia.** Oglethorpe Co.: *Cronquist 4588* (FLAS, GA, GH, MO, NO, SMU, US). **Kentucky.** Hickman Co.: *McFarland 213* (GH, MO). **Louisiana.** Caddo Parish: *Shinners 21177* (GA, SMU). **Maryland.** Worcester Co.: *Fernald, Long & Fogg 5573* (GH, PENN). **Mississippi.** Jackson Co.: *Seymour 91914* (DUKE, F, GH, MO, NCU, SMU, TEX). **Missouri.** Butler Co.: *Bush 3762* (GH, MO, US). **North Carolina.** Durham Co.: *Godfrey 6711* (GH, NCSC); Nash Co.: *Godfrey & Kerr 6628* (DUKE, GH, NCSC, the last two specimens are “stump sprouts”). **Oklahoma.** Atoka Co.: *Hopkins 2850* (OKL). **South Carolina.** Berkeley Co.: *Godfrey & Tryon 8217* (DUKE, F, GH, MO, NY, PENN, TENN,



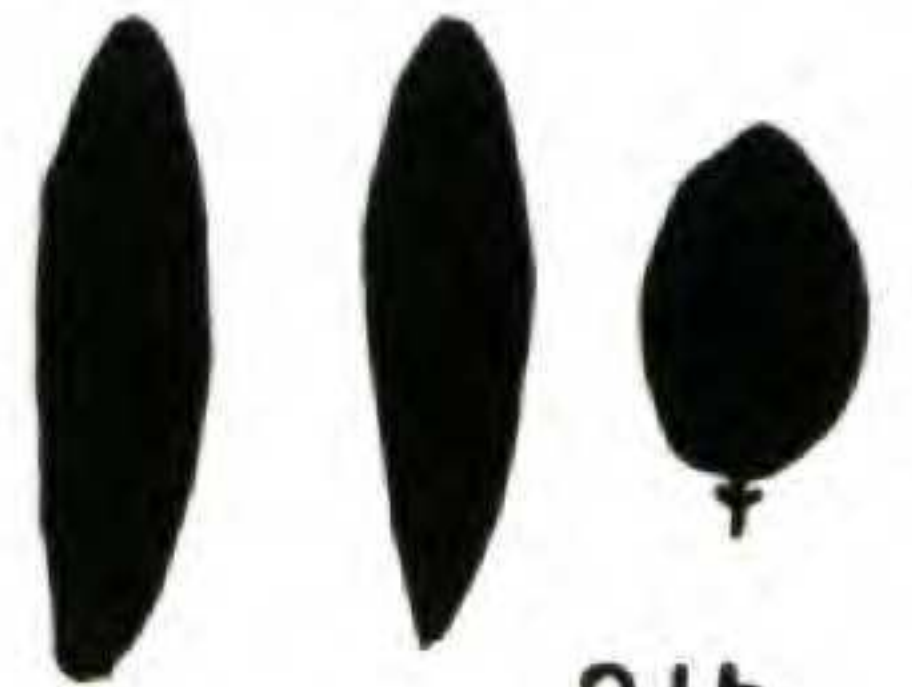
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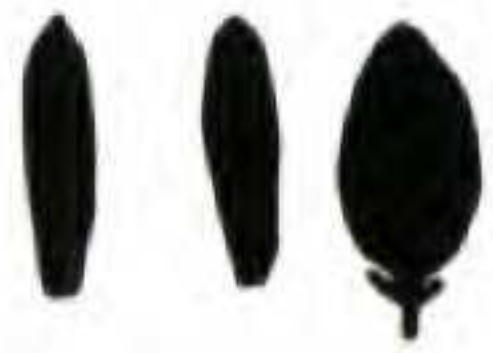
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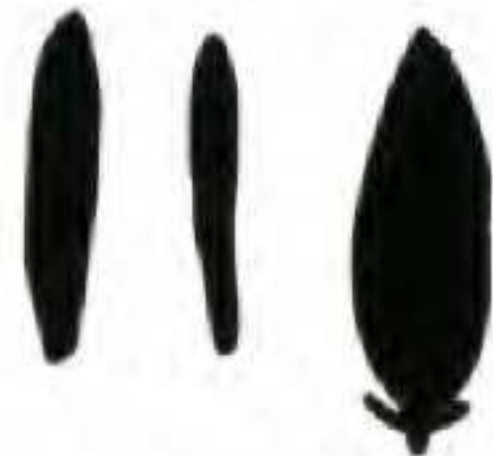
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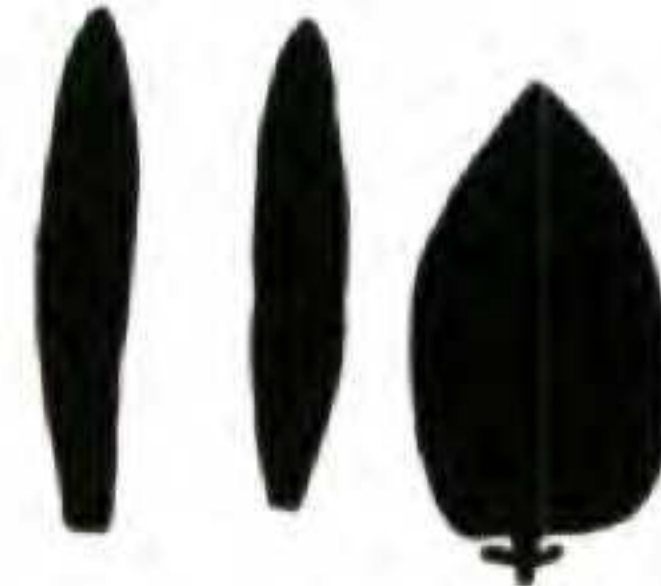
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16



22b



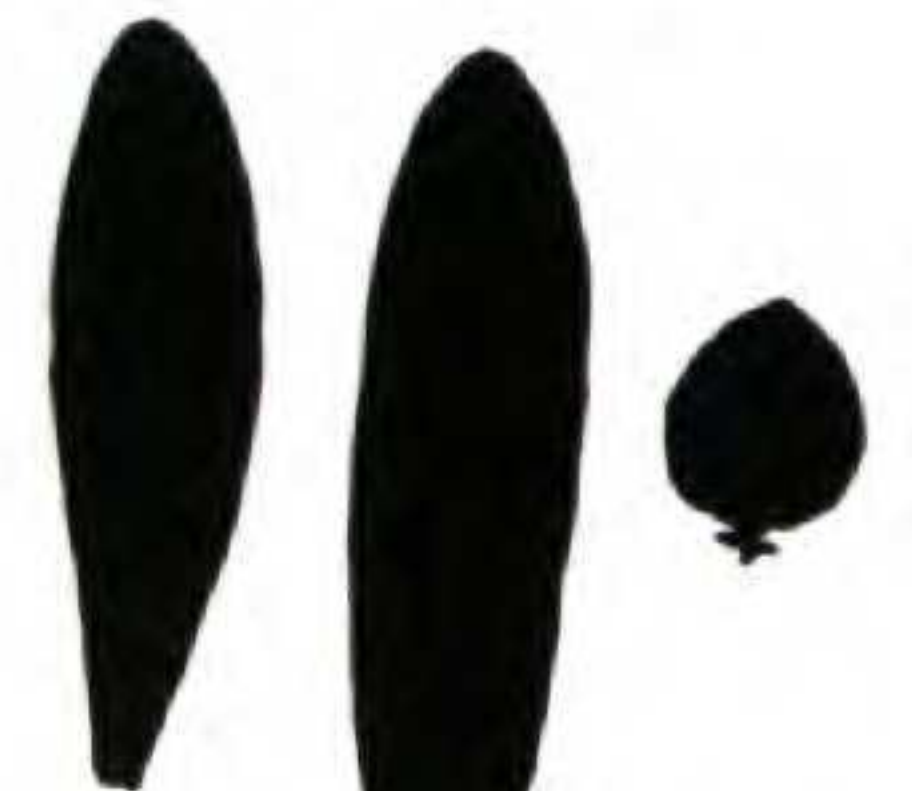
3a



10



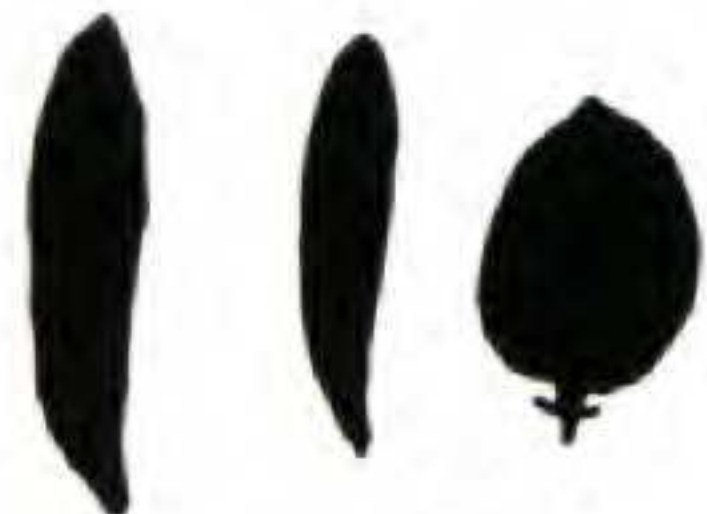
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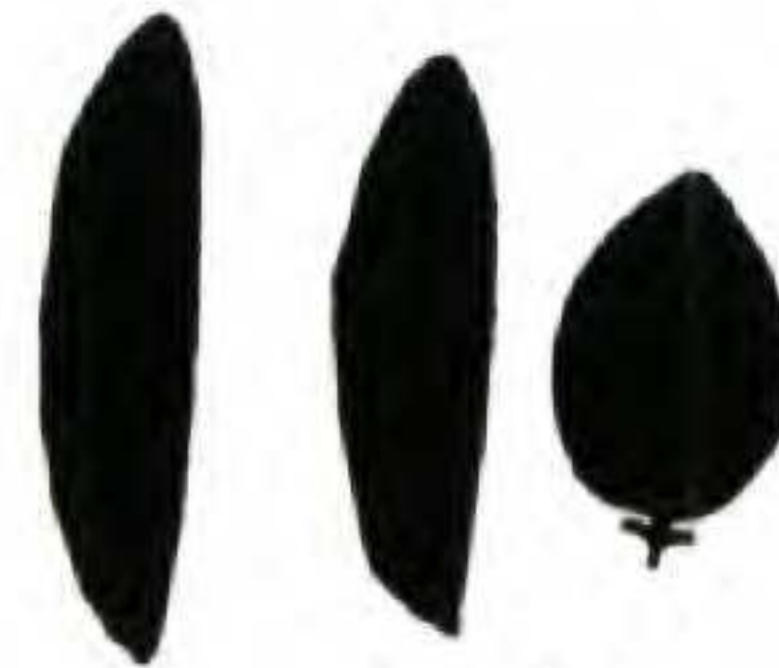
23b



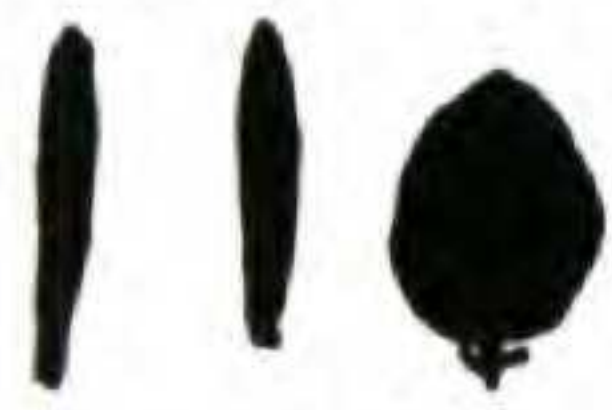
4a



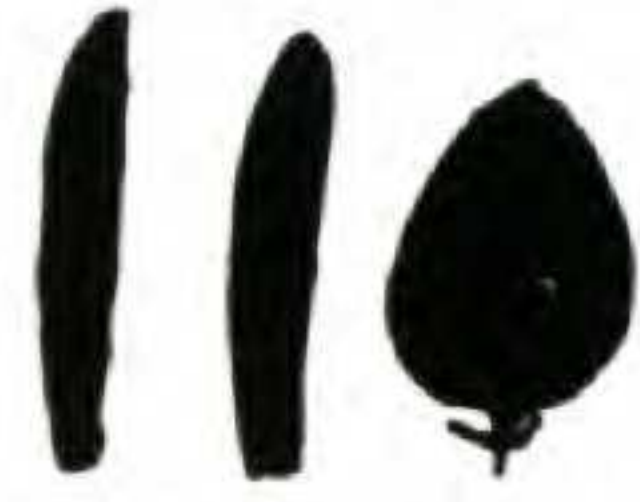
11a



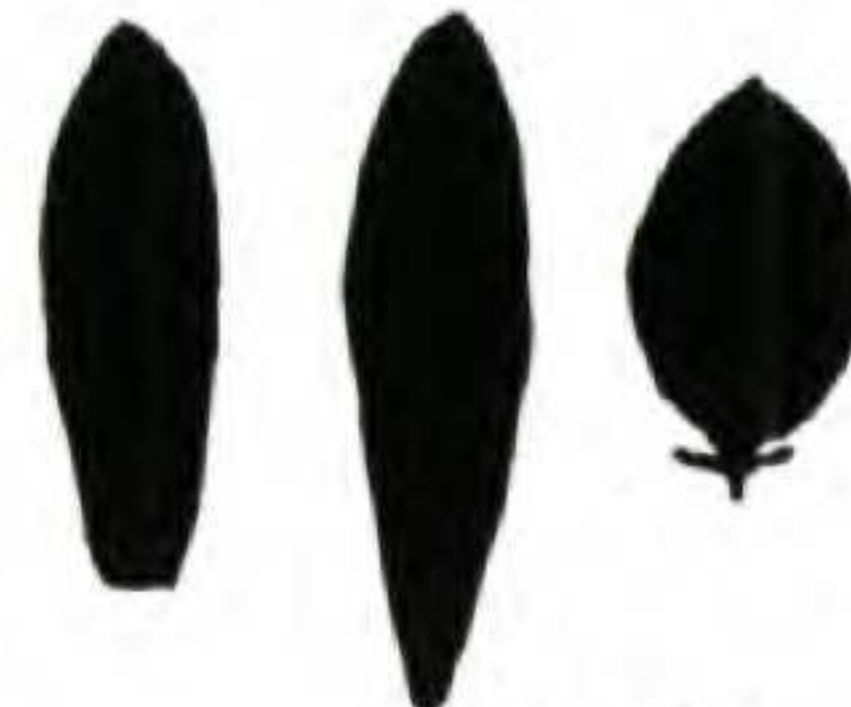
18b



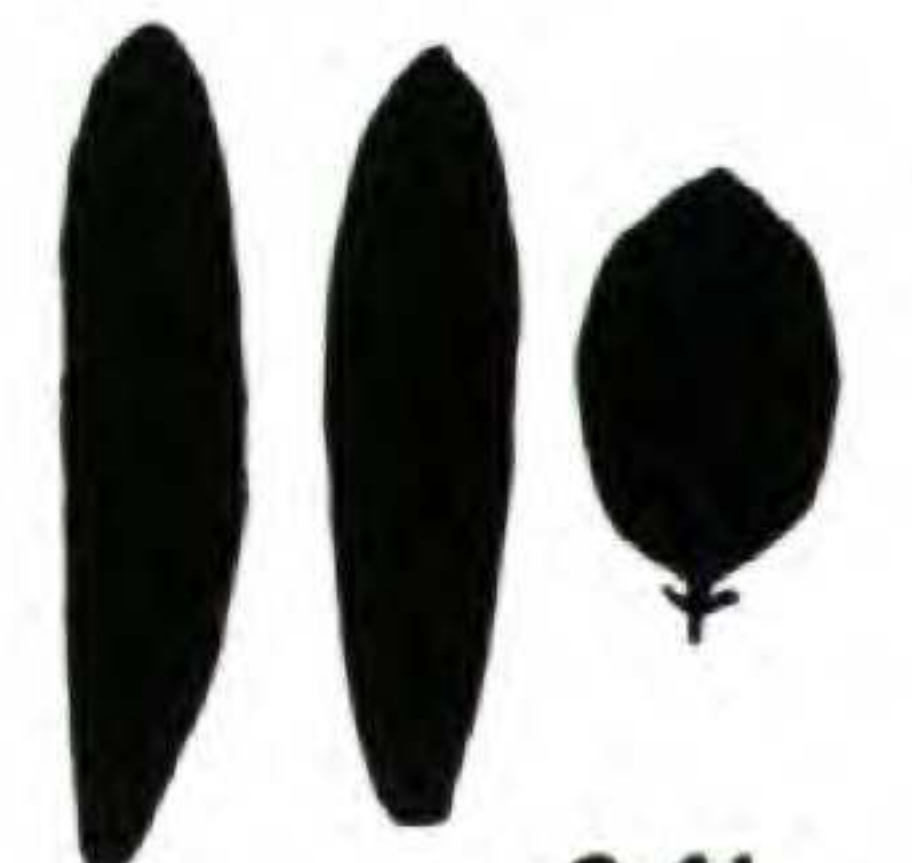
5a



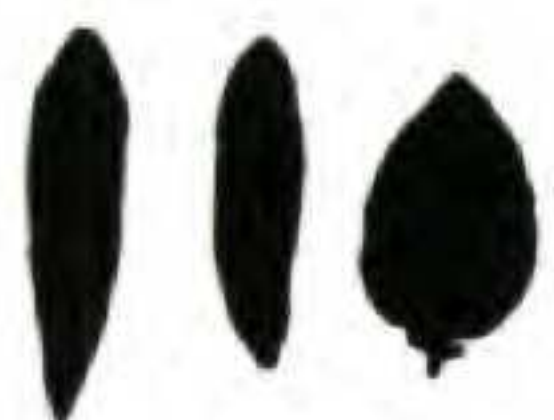
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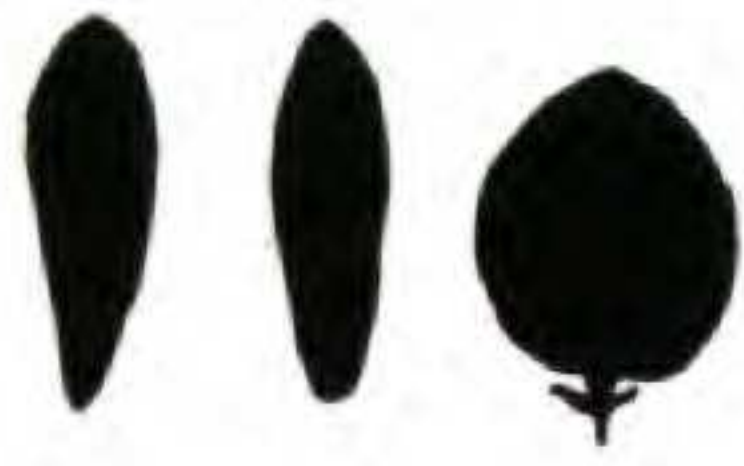
19b



24b

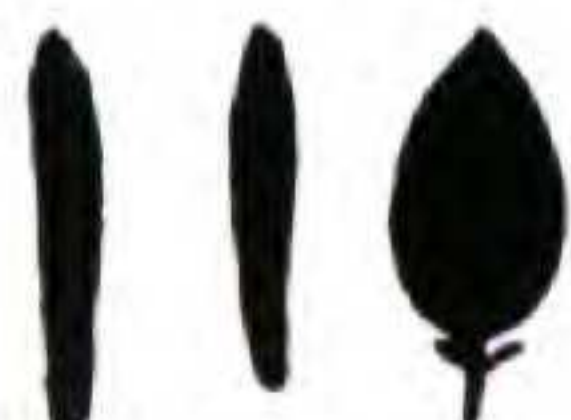


6a

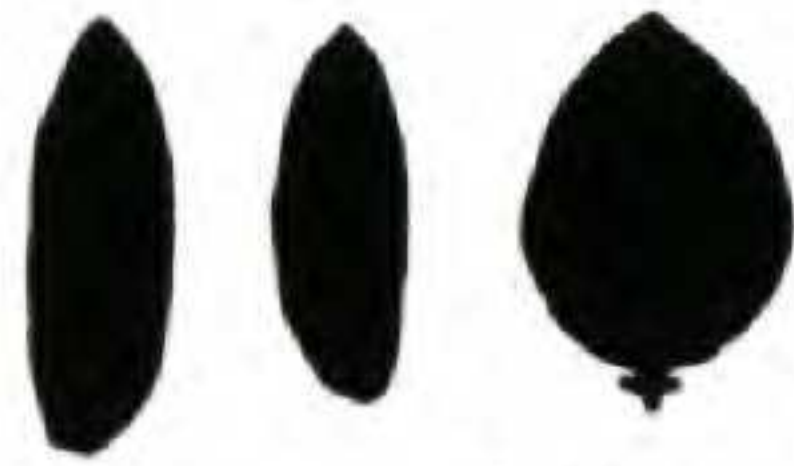


13a

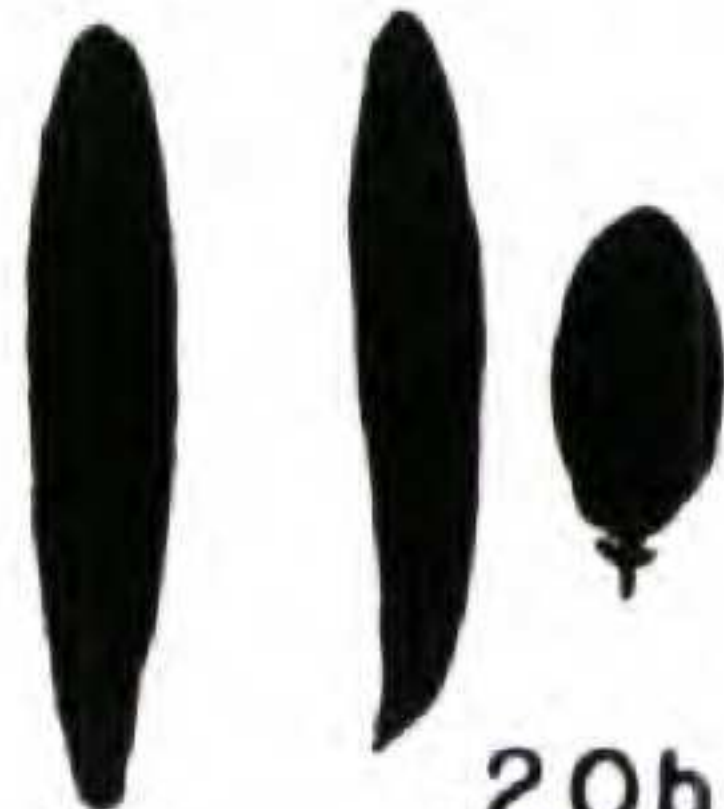
1 CM.



7a



14



20b



25b

US); Lexington Co.: *Godfrey & Tryon 1301* (DUKE, F, GH, MO, NY, PENN, TENN, US—a “stump sprout”). **Tennessee.** Coffee Co.: *Norris & Sharp 16269* (TENN). **Texas.** Anderson Co.: *Barkeley 13598* (F, GH, MO, NY, OKL, SMU, TEX). **Virginia.** Southampton Co.: *Fernald & Long 7528* (GH, NY, PENN, US). **Bahama Islands.** New Providence: *Britton & Brace 842* (F, NY, US). **Bermuda.** *Brown, Britton & Seaver 1136* type collection of *Ascyrum macrosepalum* S. Brown (F, GH, MO, NY—Type, PH, US). **Cuba.** Oriente: *Shafer 8940* (GH, US). **Dominican Republic.** Santiago: *Valeur 754* (F, MICH, MO, NY, US). **Haiti.** *Holdridge 878* (MO, NY, US). **Jamaica.** *Orcutt 2669* (F, GH, MO). **Puerto Rico.** *Sintensis 6143* (F, GH, NY, PH, US). **Guatemala.** *Turckheim 88* (GH, NY, PH, US). **Honduras.** *Standley 25344* (F, US). **Mexico.** Chiapas: *Purpus 9091* (F, GH, MO, NY, US).

2b. *Ascyrum hypericoides* L. var. *multicaule* (Michx.) Fernald

Ascyrum Hypericoides L. var. *multicaule* (Michx.) Fernald, RHODORA 38: 433. 1936. *A. multicaule* Michx. Fl. Bor.-Am. 2: 77. 1803. *A. helianthemifolium* Spach, Hist. Nat. Vég. 5: 460. 1836. *A. spathulatum* Spach, Hist. Nat. Vég. 5: 462. 1836. Type locality: “Hab. in Va., Carolina.” Type: in Michaux Herbarium, Muséum d’Histoire Naturelle de Paris (GH, photograph examined). Only the fragment on the extreme right edge of the type sheet can be considered as *A. hypericoides* var. *multicaule*. The other fragments to the left are *A. hypericoides* var. *hypericoides*. Distribution: Dry, sandy or rocky slopes, roadbanks, and occasionally shady, moist, rich woods, from Nantucket Island, Massachusetts, southward on the Coastal Plain into southeastern Virginia, on the Piedmont of North Carolina, westward into northeastern Texas, eastern Oklahoma, extreme southeastern Kansas, southern Missouri, northward to the glacial boundary in southern Illinois, Indiana, and Ohio, West Virginia and extreme southeastern Pennsylvania. MAP 5.

REPRESENTATIVE SPECIMENS.—**Alabama.** DeKalb Co.: *Ruth 381* (US). **Arkansas.** Carroll Co.: *Palmer 4400* (GH, MO, US). **Delaware.** Sussex Co.: *Long & Bartram 1572* (PH). **Georgia.** Hall Co.: *Duncan & Adams 19437* (GA). **Illinois.** Pope Co.: *Palmer 16698* (GH, MO, NY, PH). **Indiana.** Clark Co.: *Deam 5414* (IND, NY). **Kansas.** Cherokee Co.: *Hitchcock 1012* (GH, MICH, MO, NY, US). **Kentucky.** Bell Co.: *Mackenzie 922* (MO, NY). **Louisiana.** Caddo Parish: *Cocks July 1909* (NO). **Maryland.**

FIG. 1–25. Diagrammatic silhouettes of representative mid-cauline leaves (first and second item in each figure trio) and sepal (third item) of *Ascyrum hypericoides* var. *hypericoides* arranged to show the continuous gradation of shape and size which exists in this species. Fig. 1—Bahama Islands; Fig. 2—Cuba; Fig. 3a—Georgia, Lincoln Co.; Fig. 4a, 12a, 13a, 24b, and 25b—Georgia, Clarke Co.; Fig. 5a—Georgia, Worth Co.; Fig. 6a—Georgia, Talbot Co.; Fig. 7a and 20b—Georgia, Wheeler Co., about 20 ft. from each other; Fig. 8a and 21b—Georgia, Johnson Co., about 150 ft. apart; Fig. 9—Honduras; Fig. 10—Guatemala; Fig. 11a and 19b—Georgia, Newton Co., about 40 ft. apart; Fig. 14—Dominican Republic; Fig. 15—Jamaica; Fig. 16—Bermuda; Fig. 17—Mexico, Vera Cruz; Fig. 18b—Georgia, Thomas Co.; Fig. 22b—Virginia, Accomac Co.; Fig. 23b—Texas, Fannin Co. (a—sunny, dry habitat; b—shady, moist habitat).

Anne Arundel Co.: *Bartlett 1838* (MICH). **Massachusetts.** Nantucket Co.: *Pennell 11174* (PH). **Mississippi.** Union Co.: *Seymour 23 Sept. 1891* (DUKE). **Missouri.** Christian Co.: *Steyermark 22969* (F, MO). **New Jersey.** Salem Co.: *Adams 1839* (GH, US). **New York.** Nassau Co.: *Ferguson 7798* (GH). **North Carolina.** Macon Co.: *Fox & Godfrey 1243* (GA, GH, NCSC). **Ohio.** Adams Co.: *Roads 24 Sept. 1933* (OS). **Oklahoma.** Oklahoma Co.: *Waterfall 2519* (GH, OKL). **Pennsylvania.** York Co.: *Adams 4380* (GH). **Tennessee.** Cannon Co.: *Svenson 9286* (GH). **Texas.** Henderson Co.: *Lundell & Lundell 9574* (GH, MICH, NY, SMU). **Virginia.** Wise Co.: *Seymour 91724* (DUKE, GH, MO, SMU). **West Virginia.** Cabell Co.: *Gilbert 548* (DUKE, F, GH, MO, NY, PENN, PH, SMU, TENN, WVA).

3. ***Ascyrum stans*** Michx. Fl. Bor.-Am. 2: 77. 1803.

A. Hypericoides L. Sp. Pl. 1: 787. 1753, as to Plukenet syn. (fide T. & G. Fl. N. Am. 1: 671. 1840). *A. grandiflorum* Raf. Fl. Ludovic. 87. 1817. *A. cuneifolium* Chapm. Fl. Southeastern U. S. ed. 2, suppl. 2, 680. 1892; ed. 3, 56. 1897.

Erect shrub (20-)30-80(-100) cm. tall, stems simple or sparsely branched. Leaves spreading to ascending, (12-)18-30(-36) mm. long, (6-)8-12(-16) mm. wide, elliptic-oblong, obovate in "stump sprouts," obtuse to acute, thick-coriaceous, slightly glaucous above, sessile, margins slightly revolute, midvein slightly elevated beneath, venation otherwise obscure, glands on lower surface of leaf about 0.050-1.025 mm. in diameter. Pedicels (3-)5-10(-12) mm. long, with lanceolate bractlets 3-5 mm. below the base of the calyx. Outer sepals (9-)10-17(-20) mm. long, (8-)9-14(-18) mm. wide, broadly ovate or suborbicular, cordate at base, acute, coriaceous, with 6-7 conspicuous lateral veins. Inner sepals 7-14 mm. long, 2-3(-4) mm. wide, lanceolate. Petals showy, (11-)12-17(-18) mm. long, (6-)7-10(-12) mm. wide, obliquely obovate, one petal often broadly lanceolate. Styles 3, rarely 4, distinct, spreading. Capsule exerted at maturity. Flowering during July to September. Type locality: "Hab. in Va." Type: presumably in the Michaux Herbarium, Muséum d'Histoire Naturelle de Paris, not seen.

Distribution: Dry to moist sandy woods, bogs, meadows, and pine flatwoods, from New Jersey and eastern Pennsylvania southward on the Coastal Plain into Florida and westward into Texas, southeastern Oklahoma, southern Arkansas, the Cumberland Plateau of Tennessee northward into McCreary and Laurel counties of Kentucky, the Piedmont and mountains of Alabama, Georgia, South Carolina, and North Carolina. MAP 4.

While the geographic range is quite extensive, *Ascyrum stans* does not appear to be very abundant anywhere. For example, in the six counties in Georgia in which I have observed the species, only a few widely scattered plants were seen. Although a species with showy flowers, it has not been collected as frequently as other less conspicuous members of the genus.

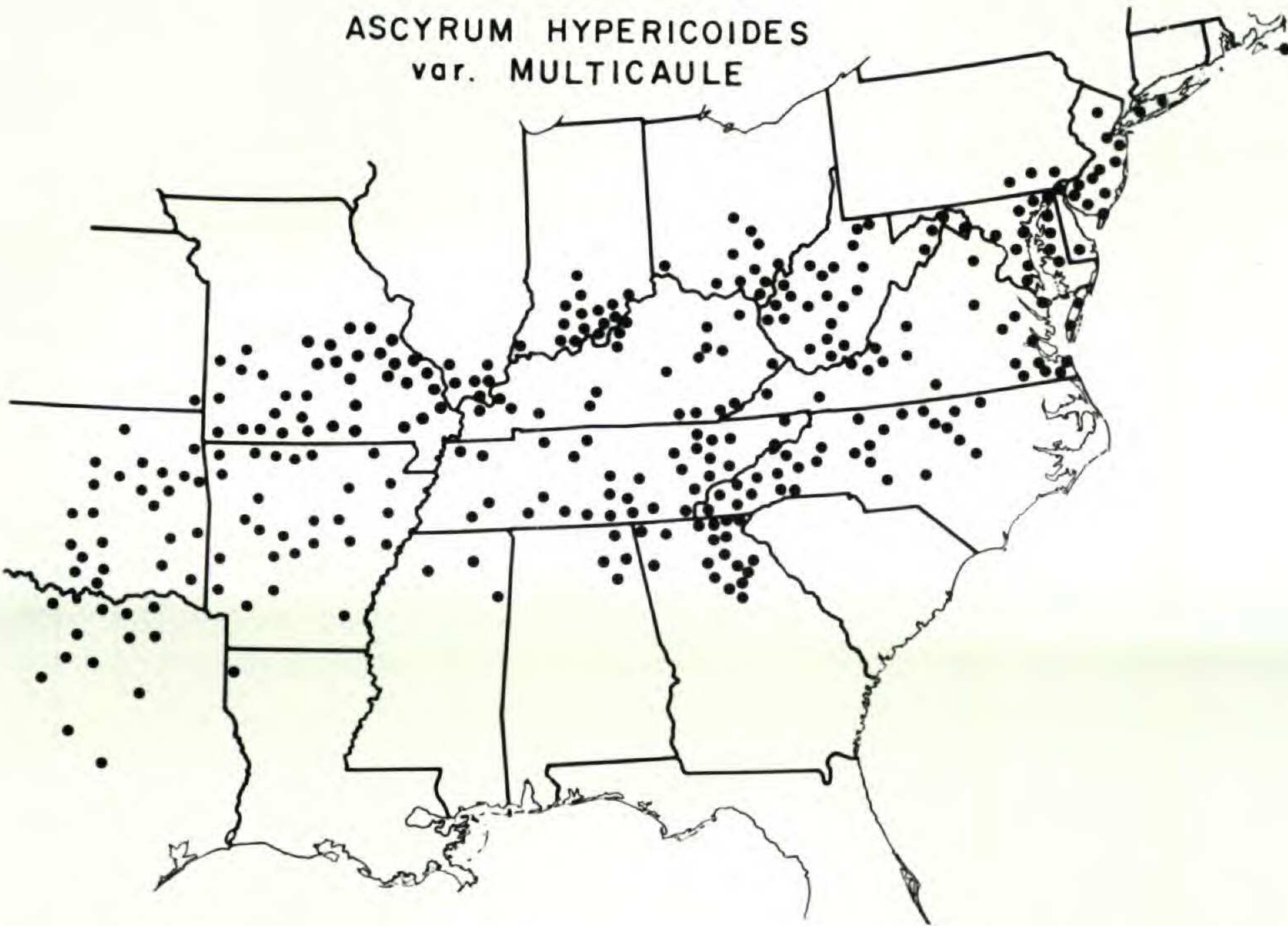
MAP 4

ASCYRUM STANS



MAP 5

ASCYRUM HYPERICOIDES
var. *MULTICAULE*



Ascyrum cuneifolium was segregated from *A. stans* by Chapman in 1892. Evidence is presented below which indicates that *A. cuneifolium* does not merit taxonomic recognition. As defined by Chapman, the differences between *A. cuneifolium* and *A. stans* are as follows:

<i>A. cuneifolium</i>	<i>A. stans</i>
1. leaves cuneate, sessile, one-half to three-fourths inch long	1. leaves oblong, closely sessile, one inch long
2. flowers long-peduncled	2. flowers short-peduncled
3. outer sepals orbicular, shorter than the obovate petals, twice as long as the oblong capsule	3. outer sepals round-cordate, as long as the obovate petals and oblong capsules

The length of the leaves cannot be used to separate *A. cuneifolium* from *A. stans* because the upper leaves of the latter species often fall within the 0.5 to 0.75 inch size range. "Peduncle" (pedicel) length is of no value as a distinguishing characteristic. In length the pedicels of *A. stans* range from 3 to 12 mm., while those of Chapman's type vary from 4 to 13 mm. Although no definite pedicel lengths were presented by Chapman, the above measurements are sufficient to indicate that two species cannot be separated on this basis.

The ratio of petal to sepal length is another character of questionable value. The several Chapman specimens of *Ascyrum cuneifolium* available in this study and numerous specimens of typical *A. stans* from throughout the range exhibit a sepal-petal ratio of about 1 : 1.

Efforts to locate characters other than those presented by Chapman by which to define *Ascyrum cuneifolium* were unsuccessful. Differences in the venation of the outer sepals, known elsewhere in the genus to be of taxonomic significance, were found to be very minor, both *A. stans* and Chapman's segregate having 6-7 main veins. The most distinctive feature of the Chapman specimens is their short stature but this appears to be a teratological, fire-induced condition.

REPRESENTATIVE SPECIMENS.—**Alabama.** Mobile Co.: *Graves 697* (MO, US). **Arkansas.** Pike Co.: *Demaree 9777* (GH, MO, NY). **Delaware.** New Castle Co.: *Tatnall 1959* (GH, PENN). **Florida.** Columbia Co.: *Nash 2489* (F, FLAS, GH, MICH, MO, NCU, NY, OS, US). **Georgia.** Douglas Co.: *Cronquist 5559* (GA, GH, NO, NY, PH, SMU, US). **Kentucky.** McCreary Co.: *McFarland & James 48* (DUKE, GA, GH, IND, MO, NY, PENN,

PH, TENN, WVA, US). **Louisiana.** Beauregard Parish: *Correll & Correll 9681* (DUKE, F, GH). **Maryland.** Prince George Co.: *Dowell 6464* (GH, MO, NY). **Mississippi.** Harrison Co.: *Tracy 3452* (F, MICH, MO, NY, OS, US). **New Jersey.** Camden Co.: *Long 25144* (GH). **North Carolina.** *Godfrey 5879* (GH, US). **Oklahoma.** LeFlore Co.: *Palmer 20595* (GH). **Pennsylvania.** Bucks Co.: *Diffenbaugh 28 Aug. 1864* (GH). **South Carolina.** Clarendon Co.: *Godfrey & Tryon 1022* (GH, NY, US). **Tennessee.** Coffee Co.: *Svenson 4246* (GH, IND, PH). **Texas.** Houston Co.: *Palmer 12819* (GH, MO, US). **Virginia.** Princess Anne Co.: *Heller 1268* (F, GH, PENN, PH, US).

4. ***Ascyrum edisonianum*** Small, Man. Southeastern Fl. 868. 1933 (as *Edisonianum*).

Shrub 3–12 dm. tall, the stem usually dichotomously branched, the horizontal roots bearing erect adventitious shoots. Leaves sessile, spreading to ascending, 15–26 mm. long, 5–8(–11) mm. wide, linear-elliptic, acuminate, heavily glaucous above, only slightly so below, margins slightly revolute, midvein slightly elevated beneath, venation otherwise obscure, glands on undersurface of leaf about 0.025–0.050 mm. in diameter, the stem with two conspicuous reddish-colored glands at base of leaf. Pedicels 5–10 mm. long, the small lanceolate bractlets 3–5 mm. below the base of the calyx. Outer sepals (8–)9–13(–17) mm. long, (5–)6–8(–9) mm. wide, cordate, acuminate, venation inconspicuous. Petals showy, 11–18 mm. long, 6–11 mm. wide, obliquely obovate. Styles 3–4. Apparently flowering all year. Type locality: “21 miles east of Arcadia, Florida.” Type: *Hand 118* (NY).

Distribution: Open prairies and pinelands, Highlands, Glades, and DeSoto Counties, Florida. MAP 1.

This distinctive species has the most restricted geographic range of any member of the genus. It is known from only three counties in south-central Florida. Locally, *Ascyrum edisonianum* is very abundant, often forming thick stands an acre or more in extent. This “colonial” aspect results from the formation of numerous adventitious shoots at frequent intervals along the characteristically horizontal roots of the plants. No other species of *Ascyrum* is known to produce such roots.

The related species, *Ascyrum tetrapetalum*, grows in the same general area. *Ascyrum edisonianum* is readily distinguished by the sepals and sessile leaves which are distinctly different in shape. The sepals and closely clasping leaves of *A. tetrapetalum* are essentially alike in shape. *Ascyrum edisonianum* is apparently most closely related to *A. stans*, as indicated by the general similarities of the sepals and leaves enumerated in the

key. These species are distinguished, however, by the following contrast of characters:

<i>A. edisonianum</i>	<i>A. stans</i>
1. adventitious shoots present	1. absent
2. venation of outer sepals inconspicuous	2. conspicuous, each sepal with 6–7 main veins
3. outer sepals cordate, acuminate, 1.4–1.9 times as long as broad, 5–8 mm. wide	3. broadly ovate or suborbicular, obtuse or acute, 1.0–1.3 times as long as broad, 10–14 mm. wide
4. leaves heavily glaucous above	4. only slightly glaucous
5. branching typically dichotomous	5. not dichotomous
6. number of glands per unit area on lower leaf surface one-half that of <i>A. stans</i> , these 0.025–0.050 mm. in diameter	6. glands twice that of <i>A. edisonianum</i> , 0.050–1.025 mm. in diameter.

The type of *Ascyrum edisonianum* (Hand 118) consists of two slides of flower dissections. Although these flowers were most likely taken from Hand's specimen number 119 (NY), the latter was not mentioned by Small in the original description. It is clear, however, that these two Hand numbers represent the only specimens available to Small in the preparation of the original description and that Hand's number 119 must have been utilized for the description of the vegetative parts. For practical purposes, both of Hand's numbers, 118 and 119, are here regarded as comprising the type. The failure of Small to cite specifically the latter probably represents merely an oversight.

Due to the paucity of existing specimens of this species, topotypes have been collected and widely distributed.

Additional collections from the areas adjacent to Highlands County would help to establish the actual geographic limits of the species.

SPECIMENS STUDIED.—**Florida.** DeSoto Co.: 20 miles east of Arcadia, *Adams 139* (GA, GH, NCSC). Glades Co.: Hailpen, Fisheating Creek, *Brass 14824* (GH). Highlands Co.: 21 miles east of Arcadia, *Hand 118*-TYPE (NY); 21 miles east of Arcadia, *Hand 119* (NY); near Hicoria, *McFarlin 10207* (GH); without definite locality, *Schallert 5-3-41* (NY); 21 miles east of Arcadia, *Adams & Testasecca 100* topotype (DUKE, F, FLAS, FSU, GA, MICH, MO, NCSC, NY, PH; do not show adventitious shoot character); 21 miles east of Arcadia, *Adams 140* topotype (GH; duplicates to be distributed show the adventitious shoots).

5. *Ascyrum tetrapetalum* (Lam.) Vail in Small, Fl. Southeastern U. S. 1: 785. 1903.

Hypericum tetrapetalum Lam. Encyc. Meth. Bot. 4: 153. 1797. *A. amplexicaule* Michx. Fl. Bor.-Am. 2: 77. 1803. *A. stans* β Choisy, Prodr. Hyper. 61. 1821. *A. Cubense* Griseb. Cat. Pl. Cuba, 40. 1866.

Erect shrub (2-)3-6(-8) dm. tall, stems typically dichotomously branched or forked above. Leaves spreading to ascending, (5-)15-25(-30) mm. long, (4-)7-15(-22) mm. wide, ovate-cordate, often broadly so, acute to acuminate, sessile and strongly clasping, thick, coriaceous, slightly glaucous, margins slightly revolute, midvein slightly elevated beneath, venation otherwise obscure. Pedicels (4-)5-10(-15) mm. long, bractlets basal. Outer sepals (9-)11-15(-17) mm. long, (6-)8-10(-13) mm. wide, ovate-cordate, acute or short-acuminate, resembling the leaves in shape, coriaceous, in drying of a lighter color than the leaves. Inner sepals (7-)9-11(-12) mm. long, (2-)2.5-3.5(-4.5) mm. wide, linear-lanceolate. Petals showy, (8-)10-15(-18) mm. long, (5-)6-12(-17) mm. wide, obliquely obovate. Styles 3, rarely 4, more or less distinct. Flowering during spring to fall or all year in southern peninsular Florida.. Type locality: "Hab. in Florida." Type: in the Lamarck Herbarium, Muséum d'Histoire Naturelle de Paris (GH, photograph seen).

Distribution: Low, sandy pinelands, edges of woods and savannas, Coastal Plain, southern Georgia and peninsular Florida; also Pinar del Rio, Cuba. MAP 2.

This species has occasionally been confused with *Hypericum myrtifolium* Lam., both of which often occur in the same habitats. Although the two species bear a superficial resemblance to one another, the generic differences are sufficient to distinguish them by any except the most casual observer.

The type of *Ascyrum Cubense* Griseb. was examined in the present study and is clearly referable to *A. tetrapetalum*, a conclusion also reached by Coulter (1886, 1897).

Although the range in the United States of *Ascyrum tetrapetalum* is well-documented in American herbaria, no specimens from Cuba other than the type of *A. Cubense* were available. According to Bro. Alain² of the Colegio "De La Salle," Habana, Cuba, *A. tetrapetalum* "has been found several times in the savannas of our province of Pinar del Rio . . . in the region that goes from South of the city of Pinar del Rio to the Guanahacabibes Peninsula."

REPRESENTATIVE SPECIMENS: **Cuba.** Without exact locality but very likely from Pinar del Rio, *Wright 2128*, TYPE of *A. Cubense* Griseb.

² Letter to Dr. W. H. Duncan, Dept. of Botany, University of Georgia, dated 13 November 1955.

(GH, MO). United States. **Florida.** Bay Co.: *Webster & Wilbur 3625* (SMU, US); Clay Co.: *Moldenke 160* (DUKE, MO, NY, PENN, US); Duvall Co.: *Curtiss 245* (F, GH, MISSA, MO, PENN, PH, NY, US); Lake Co.: *Nash 1977* (F, GH, MICH, MO, NCU, NY, PH, US); Lee Co.: *Moldenke 969* (DUKE, MO, NY, PENN). **Georgia.** Camden Co.: *Small & DeWinkeler 9692* (US); Glynn Co., *Wiegand & Manning 1999* (GH); Irwin Co.: *Wilbur 3074* (NCSC, SMU); Long Co.: *Duncan 19278* (GA); McIntosh Co.: *Cronquist 5363* (GA, GH, NY, US).

DOUBTFUL AND EXCLUDED SPECIES

ASCYRUM CALCINIUM Poir. Encyc. Tabl. 3: 199. 1823. Definitely not an *Ascyrum*.

ASCYRUM CORIACEUM Moench. Meth. 130. 1794. Definitely not an *Ascyrum*.

ASCYRUM CRUCIATUM St. Lag. in Ann. Soc. Bot. Lyon 7: 69. 1880, an avowed renaming of *A. Crux-Andreae* L. (Sp. Pl. 2: 788. 1753), which Fernald (1936) equated with *Hypericum mutilum* L.

ASCYRUM GLANDULOSUM Moench. Meth. Suppl. 42. 1802. Definitely not an *Ascyrum*.

ASCYRUM HUMIFUSUM Labill. Nov. Holl. Pl. 2: 33, t. 175. 1806. Definitely not an *Ascyrum*.

ASCYRUM INVOLUTUM Labill. Nov. Holl. Pl. 2: 32, t. 174. 1806. Definitely not an *Ascyrum*.

ASCYRUM MONOGYNUM Moench. Meth. Suppl. 42. 1802. Definitely not an *Ascyrum*.

ASCYRUM SIBIRICUM Poir. Encyc. Tabl. 3: 200. 1823. Definitely not an *Ascyrum*.

ASCYRUM SIMPLEX Zeyh. ex Turcz. in Bull. Soc. Nat. Mosc. 31: 389. 1858. This name definitely refers to an *Ascyrum* but the description is inadequate for determination of the exact species.

ASCYRUM TETRAGONUM Moench. Meth. 130. 1794. Definitely not an *Ascyrum*.

ASCYRUM VILLOSUM L. Sp. Pl. 2: 788. 1753. Definitely not an *Ascyrum*.

No member of this genus has the character "foliis hirsutis."—GRAY HERBARIUM, HARVARD UNIVERSITY.

LITERATURE CITED

CHAPMAN, A. W. 1892. Flora of the Southern United States. ed. 2, suppl. 2, 680.

———. 1897. Flora of the Southern United States. ed. 3, 56. 1897.

CHOISY, J. D. 1821. Prodomus d'une monographie de las famille des Hypéricinées. 60–61.

COULTER, J. M. 1886. Revision of the North American Hypericaceae. Bot. Gaz. 11: 80–81.

———. 1897. Hypericaceae in Gray, Synoptical Flora of North America. Vol. 1, part 1, 282–284.

FERNALD, M. L. 1936. The varieties of *Ascyrum Hypericoides*. RHODORA 38: 430–433.

- GLEASON, H. A. 1952. The New Britton and Brown Illustrated Flora of Northeastern United States and Adjacent Canada. 2: 536-537.
- JACKSON, B. D. 1912. Index to the Linnaean Herbarium. Linnaean Society, London.
- KELLER, R. 1925. *Ascyrum* in Engler and Prantl, Die Natürlichen Pflanzenfamilien. 2 Auflage, 21 Band, 175.
- LANJOUW, J. and F. A. STAFLEU. 1956. The Herbaria of the World. Regnum Vegetabile. Vol. 6, ed. 3.
- LINNAEUS, C. 1737. Genera Plantarum. 231.
- . 1753. Species Plantarum. 2: 777-778.
- . 1763. Species Plantarum. ed. 2, 2: 1107-1108.
- MOHR, C. 1901. Plant Life of Alabama. Contr. U. S. Nat. Herb., 6.
- PLUMIER, C. 1703. Nova Plantarum Americanum Genera. 51.
- SAVAGE, S. 1945. A Catalog of the Linnaean Herbarium. Linnaean Society of London.
- SMALL, J. K. 1933. Manual of the southeastern Flora. 866-868.
- SPACH, E. 1836. Famille Hypericaceae. Histoire Naturelle des Végétaux. 5: 445-464.
- TORREY, J. and ASA GRAY. 1838-1840. Flora of North America. 1: 156-157, 671-672.
- VESTAL, P. A. 1937. The significance of comparative anatomy in establishing the relationship of the Hypericaceae to the Guttiferae and their allies. Philippine Journal of Science 64: 199-256.

HEDYOTIS MINIMA f. *ALBIFLORA*.—On April 6, 1955, when the author was collecting with Dr. Ronald L. McGregor, a colony of pure white flowered *H. minima* was discovered on shallow sandy soil, over sandstone, in a clearing of an upland scrub oak forest, in Woodson County, Kansas. The exact location was: Sec. 32, T25S, R15E. The specimens were scattered in a small area of this woodland.

Hedyotis minima (Beck) T. & G., forma ***albiflora***, f. nov.—Haec forma a planta typica speciei corollis albis recedit. This form differs from the typical form of the species in having white corollas. Type specimen *Lathrop and McGregor 35*, is in the Herbarium of the University of Kansas.—EARL LATHROP, DEPARTMENT OF BOTANY, UNIVERSITY OF KANSAS, LAWRENCE, KANSAS.